More

Anaergia busy in biogas with recent start-up and other ventures

By Katie Fletcher | October 03, 2014

The Omnivore production system includes the retrofitted digester, the thickener, and the the liquid waste receiving tank, which allows truckers to connect and unload liquid wasteto feed the digester.
Anaergia Inc.

Anaergia Inc. has demonstrated its active presence in the biogas space with three recent announcements. The company announced a successful start-up of their new Omnivore biogas production system at Victor Valley Wastewater Reclamation Authority in California. The second notice derived from their selection by the Metropolitan Water Reclamation District of Greater Chicago to enter into negotiations for the design of an organic waste receiving and processing facility, modification of two anaerobic digesters (AD) and a long-term supply of organic waste material to the Calumet Water Reclamation Plant. The announcements round-off with Anaergia signing a contract with Pima County Regional Wastewater Reclamation Department in Arizona with its project partner Grannus Biogas LLC to design, build, finance, own and operate a large-scale biomethane upgrading facility.

Biomass Magazine reported earlier this week that the Omnivore retrofit demonstrates how wastewater treatment plants (WWTP) can increase digester loading and biogas production using existing infrastructure. David Schneider, vice president of business development with Anaergia, said the retrofit includes the company's high solid hydraulic mixing system and the proprietary recuperative thickening system. The system's purpose is to create capacity in the existing digester tank. In fact, a traditional digester must have three times the volume of an Omnivore digester to produce the same amount of biogas, according to the company. "With this retrofit, the 300,000 gallon Omnivore operates at 6 percent solids whereas VVWRA's 1 MM gallon digesters operate in the 2 percent solids range; hence the Omnivore digester is equivalent to the much larger digester," Schneider said. "The intent is to take a WWTP that currently generates between 600 to 700 kW of biogas and increase production with co-digestion to allow the plant with a 1.1 MW demand to be energy neutral."

Schneider said Anaergia also installed a liquid waste receiving station to co-digest external waste, and two 800 kW packaged cogeneration plants with 1.6 MW capacity to sell the procured power back to the plant under a power purchase agreement (PPA).

The company sees the retrofit benefiting VVWRA and the surrounding high desert communities serviced by the plant. An estimated $9 million savings in electrical costs over the next 20 years is one foreseen benefit, as well as providing price certainty and a hedge against increasing utility costs, said Schneider. It benefits the community by disposing of organic waste, and in the next phase, food waste diversion from the landfill will be focused on. Schneider said this has become more relevant with California's AB 1826 bill requiring commercial food waste recycling.

On Sept. 4, Anaergia was also awarded a project at the Municipal Waste Reclamation District of Greater Chicago to design an organics processing facility and upgrades to AD at the Calumet Water Reclamation Plant. CWRP's organic processing facility would allow MWRD to convert the organic fraction of municipal solid waste (OFMSW) and other organic feedstock into renewable biogas through the retrofitted digesters. Anaergia will be retrofitting two of the 12 digesters with the hydraulic mixing system. The OFMSW will mostly come from wet commercial waste derived from facilities like restaurants, ballparks, universities, school districts and more in the Cook County area.

The $20 to $30 million facility will have the capacity to process 300 tons per day of OFMSW, plus liquid waste including fats, oils and grease. The company plans to also employ their organics extrusion press (OEP) at an existing offsite solid waste facility to produce the OFMSW. The device separates unsorted municipal waste into wet organic and dry fractions. "The OEP is based on baler technology, which is a common piece of equipment in the waste industry and essentially separates the organic fraction from the residual contaminants with up to 95 percent putrescible organics recovery while generating a very clean feedstock for digestion with typically less than 1 percent contaminants," Schneider said.

The final announcement was Anaergia's plans to work on a biomethane upgrading facility. The service contract was signed to provide gas rights to Anaergia to enter into their offtake contract. "We expect to have that in place in the next month or two and with permitting just getting started, it will be nine to 12 months before we break ground," Schneider said. "The plant should be operational in about 18 months."

The proposed facility will be collocated at the Tres Rios Water Reclamation Facility just outside of Tucson, Arizona, and produce 420 MMBtu of fuel per day. The Pima County Regional Wastewater Reclamation Department transfers a majority of the biosolids generated from the nine WWTP's it operates to a centralized wastewater biosolids handling and treatment facility located at the site of the proposed facility. All of the biogas produced from the digesters is currently flared. "It has proven infeasible to operate a cogeneration plant at the facility, so the exportation of this gas via biomethane will allow the plant to essentially eliminate flaring and to generate revenue for the County," Schneider said.

Also, now that biogas fuels can qualify as cellulosic fuels under the renewable fuel standard (RFS), Schneider still sees these transportation fuels in the biogas space being difficult to finance. "While this does help support the

renewable attribute value of this resource, the vehicles fuel market still suffers from lack of long-term offtake and price certainty associated with RINS and LCFS," Schneider said. "With variable revenue, it is difficult to finance many of these projects without some other baseload revenue support."

Related Articles

RWE sells share in Italian biomass facility

Anaergia announces startup of Omnivore biogas project

EPA: 3.5 million cellulosic biogas RINs generated in August

Waste Management to sell Wheelabrator

NYC expands food waste-to-energy pilot

Biogas Opportunities Roadmap released